

Amendments to the Claims:

Claims 1-24 are pending in this application. By this amendment, claims 2, 5, 9-17 and 21-23 are cancelled, i.e., claims 1, 3, 4, 6-8, 18-20 and 24 are remaining. Among the remaining claims, claims 1, 18 and 24 are independent. Claims 1, 3, 4, 6, 7, 18, 19 and 24 are amended.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): An exposure method comprising the steps of:

illuminating a mask that forms a ~~desired~~ contact-hole pattern and an auxiliary pattern smaller than the ~~desired~~ contact-hole pattern with light from a light source; and

projecting light from the mask onto an object to be exposed via a projection optical system at least at a position offset having a distance from a focus position that provides the highest resolution, ~~so that the auxiliary pattern is not resolved~~

wherein the distance A meets the following equation:

$$0 < A \leq k_1 \times (D / S) \times (\lambda / NA^2)$$

where D is a hole diameter of the contact-hole pattern, S is a hole diameter of the auxiliary pattern, P is a half-pitch of the contact-hole pattern and auxiliary pattern, λ is a wavelength of the light from the light source, NA is a numerical aperture of the projection optical system, and $k_1 = (NA / \lambda) \times P$.

2 (CANCELLED):

3 (CURRENTLY AMENDED): An exposure method according to claim 2 1, wherein the mask two-dimensionally arranges the contact-hole pattern and the auxiliary pattern like a matrix.

4 (CURRENTLY AMENDED): An exposure method according to claim 2 1, wherein said illuminating step forms a quadrupole effective light-source shape that includes two pairs of light transmitting parts, two lines each connecting each pair of light transmitting parts constituting a coordinate for the contact-hole pattern.

5 (CANCELLED):

6 (CURRENTLY AMENDED): An exposure method according to claim 1, wherein said illuminating step uses illumination light that includes a first component incident perpendicularly upon the mask, and a second component that is incident obliquely upon the mask and has light amount smaller than that of the first component.

7 (CURRENTLY AMENDED): An exposure method according to claim 1, wherein said projection step inclines the mask or the object to be exposed relative to an optical axis of the projection optical system.

8 (ORIGINAL): An exposure method according to claim 1, wherein a shape of the auxiliary pattern is analogous to that of the desired pattern.

9-17 (CANCELLED):

18 (CURRENTLY AMENDED): An exposure apparatus comprising:
an illumination optical system for illuminating a mask that forms a ~~desired~~ a contact-hole pattern and an auxiliary pattern smaller than the ~~desired~~ contact-hole pattern with light from a light source; and

a projection optical system for projecting light from the mask onto an object to be exposed,

wherein said exposure apparatus exposes the object at least at a defocus position ~~offset~~ having a distance from the best a focus position that provides the highest resolution, and

wherein the distance A meets the following equation:

$$0 < A \leq k_1 \times (D / S) \times (\lambda / NA^2)$$

where D is a hole diameter of the contact-hole pattern, S is a hole diameter of the auxiliary pattern, P is a half-pitch of the contact-hole pattern and auxiliary pattern, λ is a wavelength of the light from the light source, NA is a numerical aperture of the projection optical system, and $k_1 = (NA / \lambda) \times P$.

19 (CURRENTLY AMENDED): An exposure apparatus according to claim 18, wherein said exposure apparatus exposes the object at the defocus position and at the ~~best~~ focus position.

20 (ORIGINAL): An exposure apparatus according to claim 18, further comprising a mechanism for inclining at least one of the mask and the object.

21-23 (CANCELLED):

24 (CURRENTLY AMENDED): A device fabricating method comprising the steps of:
exposing an object using an exposure apparatus; and
performing a predetermined process for the object that has been exposed,
wherein the exposure apparatus includes:

an illumination optical system for illuminating a mask that forms a ~~desired~~
contact-hole pattern and an auxiliary pattern smaller than the ~~desired~~ contact-hole pattern with
light from a light source; and

a projection optical system for projecting light from the mask onto an object to be
exposed,

wherein said exposure apparatus exposes the object at least ~~twice at different~~
~~positions which are different in defocus amount~~ at a defocus position having a distance from a
focus position that provides the highest resolution, and

wherein the distance A meets the following equation:

$$0 < A \leq k_1 \times (D / S) \times (\lambda / NA^2)$$

where D is a hole diameter of the contact-hole pattern, S is a hole diameter of the
auxiliary pattern, P is a half-pitch of the contact-hole pattern and auxiliary pattern, λ is a
wavelength of the light from the light source, NA is a numerical aperture of the projection
optical system, and $k_1 = (NA / \lambda) \times P$.